

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Original) A liquid crystal display device, comprising:

a first substrate, a second substrate, and a liquid crystal layer provided between the first substrate and the second substrate;

the liquid crystal display device having a plurality of picture element regions;

wherein:

the first substrate includes a picture element electrode provided on the side of the liquid crystal layer, the picture element electrode being provided in each of the plurality of picture element regions, and a switching device electrically connected to the picture element electrode;

the second substrate includes a counter electrode opposing the picture element electrode with the liquid crystal layer interposed therebetween; and

in each of the plurality of picture element regions, the picture element electrode includes a solid area including a plurality of unit solid areas; and the liquid crystal layer is in a vertical alignment when no voltage is applied between the picture element electrode and the counter electrode, and when a voltage is applied between the picture element electrode and the counter electrode, forms a liquid crystal domain taking a radially-inclined orientation in a region corresponding to each of the plurality of unit solid areas by an oblique electric field produced in the vicinity of each of the plurality of unit solid areas of the picture element electrode;

the liquid crystal display device further comprising, in each of the plurality of

picture element regions, a storage capacitance connected electrically in parallel to a liquid crystal capacitance which includes the picture element electrode, the counter electrode, and the liquid crystal layer; wherein:

in each of the plurality of picture element regions, the first substrate has an area where no solid area of the picture element electrode is provided; and

at least a part of the storage capacitance is located in the area of the first substrate where no solid area is provided.

2. (Original) The liquid crystal display device of claim 1, wherein the switching device is a thin film transistor.

3. (Original) The liquid crystal display device of claim 2, wherein the storage capacitance includes a storage capacitance line, a storage electrode opposing the storage capacitance line and electrically connected to a drain electrode of the thin film transistor, and a first insulating layer provided between the storage capacitance line and the storage electrode.

4. (Original) The liquid crystal display device of claim 3, wherein at least a part of the storage capacitance line, at least a part of the storage electrode, and at least a part of the first insulating layer are located in the area.

5. (Currently Amended) The liquid crystal display device of claim 3 ~~or 4~~, wherein the first substrate includes a scanning line electrically connected to a gate

electrode of the thin film transistor and a signal line electrically connected to a source electrode of the thin film transistor.

6. (Original) The liquid crystal display device of claim 5, wherein:

the storage capacitance line includes at least one line stem extending generally parallel to the scanning line and a line branch branched from the at least one line stem; and

the storage electrode includes at least one electrode stem opposing the at least one line stem with the first insulating layer interposed therebetween and an electrode branch branched from the at least one electrode stem.

7. (Original) The liquid crystal display device of claim 6, wherein the line branch and the electrode branch are branched so as to overlap a central portion of one of the plurality of unit solid areas or the vicinity thereof.

8. (Currently Amended) The liquid crystal display device of claim ~~6 or 7~~, wherein the at least one line stem is a plurality of line stems, and the at least one electrode stem is a plurality of electrode stems.

9. (Currently Amended) The liquid crystal display device of ~~any one of claims~~ claim 3 through 8, wherein:

the first substrate further includes a second insulating layer for covering at least the thin film transistor and the storage electrode; and

the picture element electrode is provided on the second insulating layer.

10. (Original) The liquid crystal display device of claim 9, wherein the second insulating layer is formed of a resin material.

11. (Original) The liquid crystal display device of any one of claims 1 through 10, wherein the plurality of unit solid areas each have a shape having rotational symmetry.

12. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 through 11, wherein the plurality of unit solid areas each have a generally circular shape.

13. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 through 11, wherein the plurality of unit solid areas each have a generally rectangular shape with generally arc-shaped corners.

14. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 through 11, wherein the plurality of unit solid areas each have a shape with acute corners.

15. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 through 14, wherein the plurality of unit solid areas have substantially the

same shape and substantially the same size as one another, and form at least one unit lattice arranged to have rotational symmetry.

16. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 through 15, wherein the picture element electrode further has at least one opening, and the liquid crystal layer forms a liquid crystal domain taking a radially-inclined orientation in a region corresponding to the at least one opening by the oblique electric field when a voltage is applied between the picture element electrode and the counter electrode.

17. (Original) The liquid crystal display device of claim 16, wherein the at least one opening includes a plurality of openings having substantially the same shape and substantially the same size as one another, and at least a part of the plurality of openings forms at least one unit lattice arrange to have rotational symmetry.

18. (Original) The liquid crystal display device of claim 17, wherein each of the at least the part of the plurality of openings has a shape having rotational symmetry.

19. (Currently Amended) The liquid crystal display device of claim 17 ~~or 18~~, wherein each of the at least the part of the plurality of openings has a generally circular shape.

20. (Currently Amended) The liquid crystal display device of ~~any one of~~

~~claims~~claim 17 through 19, wherein in each of the plurality of picture element regions, a sum of area sizes of the plurality of openings of the picture element electrode is smaller than an area size of the solid area of the picture element electrode.

21. (Currently Amended) The liquid crystal display device of ~~any one of~~ ~~claims~~claim 17 through 20, further comprising a protrusion provided in each of the plurality of openings of the picture element electrode, wherein the protrusion has the same cross-sectional shape as that of the plurality of openings in a planar direction, and a side surface of the protrusion exerts an orientation-regulating force acting upon the liquid crystal molecules in the liquid crystal layer in the same direction as an orientation-regulating direction provided by the oblique electric field.

22. (Currently Amended) The liquid crystal display device of ~~any one of~~ ~~claims~~claim 1 through 21, wherein the second substrate has an orientation-regulating structure in an area corresponding to each of the plurality of unit solid areas, the orientation-regulating structure exerting an orientation-regulating force for placing the liquid crystal molecules in the liquid crystal layer into a radially-inclined orientation at least in a state where a voltage is applied between the picture element electrode and the counter electrode.

23. (Original) The liquid crystal display device of claim 22, wherein the orientation-regulating structure is provided in an area corresponding to a central portion of each of the plurality of unit solid areas or the vicinity thereof.

24. (Currently Amended) The liquid crystal display device of claim 22 ~~or 23~~, wherein in the liquid crystal domain formed in correspondence with each of the plurality of unit solid areas, the orientation-regulating direction provided by the orientation-regulating structure is in conformity with the direction of the radially-inclined orientation provided by the oblique electric field.

25. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 22 ~~through 24~~, wherein the orientation-regulating structure exerts an orientation-regulating force even in a state where no voltage is applied between the picture element electrode and the counter electrode.

26. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 22 ~~through 25~~, wherein the orientation-regulating structure is a protrusion included in the counter substrate and protruding toward the liquid crystal layer.

27. (Currently Amended) The liquid crystal display device of claim 25 ~~or 26~~, wherein a part of the storage capacitance overlaps the orientation-regulating structure.

28. (Currently Amended) The liquid crystal display device of ~~any one of claims~~claim 1 ~~through 27~~, wherein the liquid crystal domain takes a spiral radially-inclined orientation.

29. (Original) A liquid crystal display device, comprising:

a first substrate, a second substrate, and a liquid crystal layer provided between the first substrate and the second substrate;

the liquid crystal display device having a plurality of picture element regions;

wherein:

the first substrate includes a picture element electrode provided on the side of the liquid crystal layer, the picture element electrode being provided in each of the plurality of picture element regions, and a switching device electrically connected to the picture element electrode;

the second substrate includes a counter electrode opposing the picture element electrode with the liquid crystal layer interposed therebetween; and

in each of the plurality of picture element regions, the picture element electrode has at least one opening or slit; and the liquid crystal layer is in a vertical alignment when no voltage is applied between the picture element electrode and the counter electrode, and when a voltage is applied between the picture element electrode and the counter electrode, is orientation-regulated by an oblique electric field produced in an edge portion of the at least one opening or slit of the picture element electrode;

the liquid crystal display device further comprising, in each of the plurality of picture element regions, a storage capacitance connected electrically in parallel to a liquid crystal capacitance which includes the picture element electrode, the counter electrode, and the liquid crystal layer; wherein:

at least a part of the storage capacitance overlaps the at least one opening or slit of the picture element electrode.

30. (Original) The liquid crystal display device of claim 29, wherein the switching device is a thin film transistor.

31. (Original) The liquid crystal display device of claim 30, wherein the storage capacitance includes a storage capacitance line, a storage electrode opposing the storage capacitance line and electrically connected to a drain electrode of the thin film transistor, and a first insulating layer provided between the storage capacitance line and the storage electrode.

32. (Original) The liquid crystal display device of claim 31, wherein:
the first substrate further includes a second insulating layer for covering at least the thin film transistor and the storage electrode; and
the picture element electrode is provided on the second insulating layer.

33. (Original) The liquid crystal display device of claim 32, wherein the second insulating layer is formed of a resin material.